

Date: Tue, 9 Nov 93 22:29:00 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #1330
To: Info-Hams

Info-Hams Digest Tue, 9 Nov 93 Volume 93 : Issue 1330

Today's Topics:

Amateur Radio Newsline #847
BAUD VS BAUDS
characteristic impedance (3 msgs)
Daily Solar Geophysical Data Broadcast for 09 November
GAP Eagle DX-VI Problems
Help! connect my HT to Amp
How Sensitive Are Front-Ends?
Is the band dead -- or nbobody on?
SAREX Keps & Update 10/28
Summary: Gell cells

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Tue, 9 Nov 93 09:12:56 GMT
From: library.ucla.edu!csulb.edu!paris.ics.uci.edu!news.claremont.edu!
elroy.jpl.nasa.gov!swrinde!cs.utexas.edu!howland.reston.ans.net!pipex!uknet!uos-
ee!ee.surrey.ac.uk!M.Willis@network.ucsd
Subject: Amateur Radio Newsline #847
To: info-hams@ucsd.edu

In article <9311062324.AA18697@dorsai.dorsai.org>, Steve Coletti
<bigsteve@dorsai.dorsai.org> writes:
> The electronic edition of Amateur Radio Newsline is transcribed from source
> material by Dale Cary. Newsline is reprinted here courtesy of Bill
> Pasternak, WA6ITF, Editor of Newsline. Editorial comment should be
> E-mailed to newsline@mcimail.com or B.PASTERNAK@genie.geis.com. Voice or

|> FAX to +1 805-296-7180.

|>

|> NEWSLINE RADIO - CBBS EDITION #97 - POSTED 11/05/93

|>

What 11th May ! This is old stuff, why post it now in November?

Mike

Date: Mon, 8 Nov 1993 21:47:29 GMT

From: news.cerf.net!pagesat!netsys!agate!news.ucdavis.edu!othello.ucdavis.edu!
ez006683@network.ucsd.edu

Subject: BAUD VS BAUDS

To: info-hams@ucsd.edu

Ken Smith (ken.smith@channel1.com) wrote:

: Doesn't BAUD fall into the category of words like DATA? It remains the
: same.

No, baud is not like data. Data is plural datum is singular. Which is like media
and medium. As far as I
know baud is singular for baud. It is a rate like MPH you don't use MPHs or WPMs
well, I don't.

73 es cheers

Dan

--

```
*-----*
* Daniel D. Todd      Packet: KC6UUD@WA6RDH.#nocal.ca.usa      *
*                   Internet: DDTODD@ucdavis.edu                *
*                   Snail Mail: 1750 Hanover #102               *
*                   Davis CA 95616                             *
*-----*
*       I do not speak for the University of California....    *
*       and it sure as hell doesn't speak for me!!            *
*-----*
```

Date: Mon, 08 Nov 1993 20:26:38 GMT

From: yuma!galen@purdue.edu

Subject: characteristic impedance

To: info-hams@ucsd.edu

In article <2blsrf\$abhh@master.cs.rose-hulman.edu> derry@NeXTwork.Rose-Hulman.Edu writes:

>[> The characteristic impedance of a line is given by the formula
>[> $Z_0 = 138 \log(d_2/d_1)$
>[> where d_2/d_1 is the ratio of the respective diameters of the inner and
>[> outer
>This formula only works for a particular dielectric.
>73 de Jack,, K9CUN

The particular dielectric being air. This also only works for a coaxial cable. For a twin-lead typ line, with an air dielectric,

$$Z_0 = 138 \log(2S/d)$$

I can't find the book right now, but I believe if you multiply the impedances found in these equations by the dielectric constant of whatever the diel. is, you'll get the impedance.

Why doesn't the ARRL have equations with real/non-air dielectrics?

Galen, KF0YJ

Dielectric constant of air: 1.0

Date: 9 Nov 93 21:55:16 GMT
From: ogicse!hp-cv!hp-pcd!hpcvsnz!tomb@network.ucsd.edu
Subject: characteristic impedance
To: info-hams@ucsd.edu

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:

: In article <9311081152.AA32868@swmis> P.Lucas@mail.nerc-swindon.ac.UK writes:
: >The characteristic impedance of a line is given by the formula

: >
: > $Z_0 = 138 \log(d_2/d_1)$
: >
: >where d_2/d_1 is the ratio of the respective diameters of the inner and outer
: >elements of the line.

: That formula will work for *air dielectric* lines, but isn't correct
: for the more common cables with solid dielectrics of various values.
: There's no easy way to determine the dielectric constant of a cable
: by simple inspection.

: You can attempt to measure the inductance and capacitance per unit
: length and apply the formula

: $Z_0 = \sqrt{L/C}$

Hmm--we're onto something here folks. Let's have a closer look. I assume it will be easier for people to measure C than to measure L. In addition to $Z_0 = \sqrt{L/C}$, the time delay is given by $T = \sqrt{LC}$. For a given impedance cable, the Z_0 thing tells us that L/C is a constant. We also know T for air-dielectric cable: in fact, LC is a constant for an air dielectric cable, independent of its impedance. If T is the time delay per unit length of a line, and T_0 is the time delay per unit length of an air (really, vacuum) insulated line, then $T = T_0 \sqrt{E_r}$ where E_r is the relative dielectric constant of the effective line insulation. The one other thing we need (which someone else already posted) is the impedance of the line from the geometry and the relative dielectric: $Z_0 = 138 * \log(d_2/d_1) / \sqrt{E_r}$.

If I worked through the math right, then

$$Z_0 = \sqrt{(T_0/C) * 138 * \log(d_2/d_1)}$$

So, if you measure d_2 , d_1 , and C, you should be able to determine Z_0 . Of course, E_r can also fall out of this, as can T and L. Remember, C is in capacitance per unit length, same length that T_0 is in terms of. T_0 would be 1.0167 nanoseconds/foot, or equivalently 3.3356 nanoseconds/meter. If you use T_0 in nanoseconds/length, then use C in nanofarads/length, if you want Z_0 in ohms. I don't know for sure, but if the (center) conductor is stranded, you probably want to use a diameter very nearly the diameter of the circle that can contain all the wires... Make sure you measure C at a low enough frequency that the line is an insignificant fraction of a wavelength.

BTW, if the dielectric is solid polyethelene then $1/\sqrt{E_r}$ should be very close to .665, and if the dielectric is solid Teflon, then $1/\sqrt{E_r}$ should be very close to .690. The foam dielectrics and the spiral wrap (like RG-62/U and Belden 9914) are the tough ones.

Date: Tue, 9 Nov 1993 01:06:18 GMT
From: news.cerf.net!kaiwan.com!UB.com!pacbell.com!ptsfa!dmtur@network.ucsd.edu
Subject: characteristic impedance
To: info-hams@ucsd.edu

In article <9311081152.AA32868@swmis> P.Lucas@mail.nerc-swindon.ac.UK writes:
>
>No-one has yet pointed out that you can 'measure' it directly! No need for
>anything electrical, electronic or radio.
>
>The characteristic impedance of a line is given by the formula

>
 > $Z_0 = 138 \log(d_2/d_1)$
 >
 > where d_2/d_1 is the ratio of the respective diameters of the inner and outer
 > elements of the line.
 > If the line has a solid center conductor, its easy! Get out your vernier
 > callipers or micrometer, and a scientific calculator (or log-tables for
 > oldtimers). Multi-stranded center conductors may need some extra
 > trigonometry; measure the thickness of one strand, count the number of
 > strands, work out the mean diameter..... or isnt this sort of thing taught
 > in math classes these days?

I don't know if they teach such things in school anymore or not.

But if they do, I hope that they also teach that the equation above
 is for AIR dielectric only. The complete formula is:

$$Z_0 = (138/e^{1/2})\log_{10}(D/d)$$

where: e is the dielectric constant
 D is the inside diameter of the outer conductor
 d is the outside diameter of the inner conductor

--
 Dave Turner (510) 823-2001 {att,bellcore,sun,ames,decwrl}!pacbell!dmtur

 Date: 10 Nov 93 04:26:54 GMT
 From: news-mail-gateway@ucsd.edu
 Subject: Daily Solar Geophysical Data Broadcast for 09 November
 To: info-hams@ucsd.edu

!!BEGIN!! (1.0) S.T.D. Solar Geophysical Data Broadcast for DAY 313, 11/09/93
 10.7 FLUX=090.5 90-AVG=093 SSN=027 BKI=2323 1212 BAI=008
 BGND-XRAY=A6.6 FLU1=1.2E+06 FLU10=1.1E+04 PKI=2323 2232 PAI=009
 BOU-DEV=014,030,018,029,008,010,008,019 DEV-AVG=017 NT SWF=00:000
 XRAY-MAX= B2.7 @ 0752UT XRAY-MIN= A4.9 @ 0308UT XRAY-AVG= A8.1
 NEUTN-MAX= +003% @ 1535UT NEUTN-MIN= -001% @ 1935UT NEUTN-AVG= +0.7%
 PCA-MAX= +0.0DB @ 2355UT PCA-MIN= -0.3DB @ 2235UT PCA-AVG= -0.0DB
 BOUTF-MAX=55368NT @ 0332UT BOUTF-MIN=55340NT @ 1947UT BOUTF-AVG=55355NT
 GOES7-MAX=P:+000NT@ 0000UT GOES7-MIN=N:+000NT@ 0000UT G7-AVG=+068,+000,+000
 GOES6-MAX=P:+117NT@ 1719UT GOES6-MIN=N:-069NT@ 1043UT G6-AVG=+090,+018,-039
 FLUXFCST=STD:090,090,085;SESC:090,090,085 BAI/PAI-FCST=005,005,005/010,010,010
 KFCST=1004 4000 0005 5000 27DAY-AP=013,008 27DAY-KP=3443 2222 3222 2221

WARNINGS=

ALERTS=**245STRM:0000-2359UTC

!!END-DATA!!

NOTE: The Effective Sunspot Number for 08 NOV 93 is not available.
The Full Kp Indices for 08 NOV 93 are not available.

Date: Tue, 9 Nov 1993 02:34:00 GMT

From: news.cerf.net!kaiwan.com!UB.com!pacbell.com!att-out!cbnewst!
waco@network.ucsd.edu

Subject: GAP Eagle DX-VI Problems

To: info-hams@ucsd.edu

In article <3788@esun179.gdc.com> kurdzo@gdc.COM (Jim Kurdzo) writes

> Recently I purchased a GAP Eagle DX-VI vertical HF antenna. The
>10, 12, and 15 meter bands give very good SWR readings. However, I'm
>having problems with 17, 20, and 40. All three bands have unacceptably
>high SWR readings. On 40, the GAP seems to resonate up near the top
>of the band (rather than in the middle). On 20 and 17, the SWR doesn't
>seem to vary much with frequency.

>

> I have called the guys at GAP three times now. They have given
>me many suggestions, but none of them have worked. I've tried the
>antenna on the ground as well as on my roof. I've tried 3 different
>types (and lengths) of coax. The antenna appears to work better on
>the ground, by the way. There are no large metal objects nearby.
>They keep telling me "If it's assembled correctly, and nothing nearby
>is coupling to it, it will work".

>

> Has anyone else out there bought one of these and got it to work?
>Does anyone know the theory behind this antenna? There is a capacitor
>at the top of the antenna. The guy at GAP said this cap could be changed
>to change the center of 40m coverage. Has anyone else had to do this?

>

> Please share any of your GAP experiences (good OR bad) with me.

>

>Thanks,

>

>--

>

>Jim Kurdzo AA1GZ

>General DataComm

>Middlebury, CT 06762-1299

>(203) 574-1118 x6443

>kurdzo@gdc.com

I had a similar problem with a GAP two years ago. Sounds like you got the same advice from the factory as I did. They suggested different lengths of coax. It didn't make any difference. Mine was a perfect 1:1 on 80M, but some other bands (I can't remember which) were over 2:1. The factory made the same claim; there should be no reason for the high SWR. I had a second problem. The GAP really bent in a moderate (25 - 30mph) wind. I had it guyed with fish line, but the lines were not real taught and the stakes not that far away from the base. After a weekend of wind like this, the antenna developed a permanent bend in it.

Although I wanted the antenna to get 100 countries on 40M and 80M for 5-band DXCC, I did not want to pay good money for one that didn't have acceptable SWR on all bands. Also, I did not like the idea of a bent antenna. The folks at the factory were kind enough to take it back (my shipping expense, of course) and refund my money, minus a few bucks for the base which I had set in concrete; so when I get a Butternut perhaps next year...

The main reason I got the GAP was that it was 10 through 80 with the WARC bands and only needed 3 radials (I mounted it in a flower garden at the edge of my property and did not want to dig up the flowers for lots of radials). Perfect, I thought. Didn't work out that way.

One thing that was true in the advertising was that it was a very quiet listening antenna. Having had a 14AVQ some years ago, I know how noisy a vertical can be. The GAP was very quiet.

73,

John, WB9VGJ

```
#####  
# John L. Broughton      snail mail: Room 1K-324      #  
# AT&T                  1200 E. Warrenville Rd.      #  
#                      P.O. Box 3045                 #  
#                      Naperville, IL 60566-7045     #  
#                      (708) 713-4319                 #  
#                      e-mail: john.l.broughton@att.com #  
#                      att!john.l.broughton          #  
#                      air mail (HF, VHF): WB9VGJ     #  
#####
```

Date: Mon, 08 Nov 1993 20:38:12 GMT
From: pacbell.com!well!nigel.msen.com!yale.edu!xlink.net!howland.reston.ans.net!
vixen.cso.uiuc.edu!sdd.hp.com!col.hp.com!csn!yuma!galen@network.ucsd.edu

Subject: Help! connect my HT to Amp
To: info-hams@ucsd.edu

In article <1993Nov7.110451.1436@uxmail.ust.hk> ee_hflo@uxmail.ust.hk (Michael Lo) writes:

>Dear All hams,

> I got problem in connect my HT to Linear Amp.

>equipments:

>- Diameter 2 meter VSWR meter

>- Standard C160 (6v batteries)

>- Yaesu FT-411 (borrow from my friend) (7.2 batteries)

>- Daiwa 80 Watt Linear Amp

>- Car 12 volt lead acid battery

>- Diameter 2 meter Vertical Aerial X-50 (max 200 watt, with 4.5db in 2 meter)

>Connection:

> HT--(a 1 feet cable)--Linear AMP---(Meter)---(10 meter cable)---Aerial

> I have connected my friend's Yaesu FT-411 to the Amp. It work very good.

>and hit most repeaters with very clear signal.

> However, when I tried to connect my C160 to the amp,the "on air" led

>hold after I release the PTT. The signal that receive also very good.

>It did not happen in my friend's FT-411.

> Why the Amp continue to transmit after PTT released ? Why don't happen

>in the FT-411 ?

> Lo Ho Fung Michael	== Internet e-mail address ==	
> Department of	University : ee_hflo@stu.ust.hk	
> Electrical & Electronic Engineering	My host : michaelo@dma039.ust.hk	
> The Hong Kong University	Radio Call Sign : VR2YJR at	
> of Science & Technology	VS6KP repeater : 145.650 MHz (-)	
> Major : Computer Engineering	VS6HKA repeater : 145.750 MHz (-)	

Somehow the RF sensing that switches the amp to transmit is locking up on transmit. You may have some RF from the output getting into the input. Try moving the HT farther from the amp (or at least the cable to the antenna). You may be able to adjust the RF sensing level in the amp so it switches at a higher level.

Anybody have experience with the Daiwa amp in question?

Good Luck!!!

Galen, KF0YJ 73.

Date: Tue, 9 Nov 1993 15:46:09 GMT

From: nmt.edu!mimbres.cs.unm.edu!ncar!gatech!darwin.sura.net!fconvx.ncifcrf.gov!
fcs260c!mack@network.ucsd.edu

Subject: How Sensitive Are Front-Ends?

To: info-hams@ucsd.edu

In article <2bmn9j\$d0q@oak.oakland.edu> sdkuo@argo.acs.oakland.edu writes:
>How sensitive are the front-ends of my scanner, cell-phone and amateur
>rig? My plan is to have an Icom2410 (up to 45/35 watts on 144/440),
>scanner (wide-band) and cell-phone (3 watts on 800) all mounted in
>my car. All three antennas will be at the rear end spaced approximately
>2-3 feet from each other. The Icom antenna will be trunk-lip-mount, the
>cell-phone antenna is glass mount at the top of the glass and the scanner
>antenna will be trunk-lip-mount on the other side. With this configuration
>is it safe to operate all three devices simultaneously without fear of
>damaging front-ends?
>
>thanks for all replies,
>--
>Steve Kuo, N8OPH, sdkuo@oakland.edu

I have a 2m, 220, 440 rig all in the car at the same time, with
10-40W. The antennas are all on the same back window. Unless I turn the
audio down, the other two rigs screen when I key down, but no damage
ever occurs. (that's scream not screen).

Joe Mack NA3T mack@ncifcrf.gov

Date: 8 Nov 93 23:06:58 GMT
From: sdd.hp.com!col.hp.com!fc.hp.com!perry@hplabs.hp.com
Subject: Is the band dead -- or nobody on?
To: info-hams@ucsd.edu

I tune through the CB frequencies. Channel 19 (27.215?) is usually a
good indication of band conditions.

Likewise, the shortwave broadcasters around 15 meters are also a good
beacon system.

Perry Scott
AA0ET

Date: 10 Nov 93 03:50:16 GMT
From: news-mail-gateway@ucsd.edu
Subject: SAREX Keps & Update 10/28
To: info-hams@ucsd.edu

R:931109/2223Z @:VK1KCM.ACT.AUS.OC [Canberra, ACT] \$:28985_W70EK
R:931109/1708Z @:OH3RBR.#TRE.FIN.EU [Tampere] #:74021 Z:33720 \$:28985_W70EK

R:931109/1644Z @:OH6RBV.#VAA.FIN.EU [Vaasa, KP03TC] 5.15/406k \$:28985_W70EK
R:931109/0835Z @:F6CNB.#SETX.TX.USA.NA [SugarLand] #:63329 Z:77478
R:931107/1322Z @:K5DI.NM.USA.NA [Las Cruces] #:6281 Z:88047
R:931107/0723 63877@WB5NQC.NM.USA.NA NOGAL
R:931107/1152Z @:WB2ARS.NM.USA.NA [Albuquerque] #:13716 Z:87111 FBB5.15
R:931107/0042z 39901@KA5JNJ.NM.USA.NA [FARMINGTON]
R:931105/0458 @:KG7LM.#CDC.UT.USA.NA Cedar City, Ut. #:14287 Z:84720
R:931105/1000z 26134@N7SBW.#NCAZ.AZ.USA.NA [LAKE POWELL]
R:931104/1354z 6464@WX7Y.#SEUT.UT.USA.NA
R:931104/1358z 10532@N7MLR.UT.USA.NA
R:931104/0627z 52015@N0LEU.#NWCO.CO.USA.NOAM
R:931103/1808z 59385@KT0H.#NECO.CO.USA [DATA HUB CO]
R:931103/1737Z @:W0RA.#SECO.CO.USA.NA [YODER] FBB5.14d #:82728
R:931103/1306Z @:W7GCI.WA.USA.NA [Tacoma] #:35684 Z:98499 FBB5.15
R:931103/1226Z @:WA7BHH.WA.USA.NA [Tacoma] #:13577 Z:98465 FBB5.15
R:931103/1143 6217@WB7QEU.WA.USA.NA
R:931103/1022 7985@WA7SJJ.WA.USA.NA
R:931103/1012 1124@W0RLI.OR.USA.NOAM
R:931103/0555 37552@N7DXT.#EUGEN.OR.USA.NA
R:931103/0515 49937@WB7VMS.#MURPH.OR.USA.NOAM

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28985 ; Tue, 02 Nov 93 20:47:06 GMT
Date: Tue, 02 Nov 93 20:47:48 UTC
Message-Id: <28973_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28973 ; Tue, 02 Nov 93 19:58:01 GMT
Date: Tue, 02 Nov 93 19:58:49 UTC
Message-Id: <28968_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28968 ; Tue, 02 Nov 93 18:43:20 GMT
Date: Tue, 02 Nov 93 18:44:09 UTC
Message-Id: <28942_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org

Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28942 ; Tue, 02 Nov 93 17:43:53 GMT
Date: Tue, 02 Nov 93 17:44:47 UTC
Message-Id: <28937_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28937 ; Tue, 02 Nov 93 15:43:49 GMT
Date: Tue, 02 Nov 93 15:44:50 UTC
Message-Id: <28936_w7oek@w7oek. " . 8
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28936 ; Tue, 02 Nov 93 14:43:54 GMT
Date: Tue, 02 Nov 93 14:44:51 UTC
Message-Id: <28935_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28935 ; Tue, 02 Nov 93 13:43:53 GMT
Date: Tue, 02 Nov 93 13:44:50 UTC
Message-Id: <28933_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 28933 ; Tue, 02 Nov 93 12:42:37 GMT
Date: Tue, 02 Nov 93 12:43:53 UTC
Message-Id: <28932_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28

X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28932 ; Tue, 02 Nov 93 12:09:45 GMT

X-Forwarded-To: W70EK

Date: 28 Oct 93 19:00:00 UTC

Message-Id: <931028050312@w70ek.bbs>

From: abfhb@wa8ure.#swmi.mi.usa.na

To: ans@amsat.org

Subject: SAREX Keps & Update 10/28

X-BBS-Msg-Type: B

R:931102/0810z 28885@W70EK.OR.USA.NA
R:931102/0121 49595@WB7VMS.#MURPH.OR.USA.NOAM
R:931101/1449 37097@N7DXT.#EUGEN.OR.USA.NA
R:931101/0530 4700@KB7DBD.OR.USA.NA
R:931101/1218 9138@KB7KBT.OR.USA.NA
R:931101/1152 6500@KA7AGH.OR.USA.NA
R:931101/1156 23351@W0RLI.OR.USA.NA
R:931101/1128 7291@WA7SJJN.WA.USA.NA
R:931101/0025 12848@WA7BHH.WA.USA.NA
R:931101/0000 35118@W7GCI.WA.USA.NA
R:931030/1514 47346@N8GTC.#CIN.IN.USA.NOAM
R:931030/0718 29215@W90J.IN.USA.NA
R:931030/0652 22073@N5CEC.IN.USA.NA
R:931030/0540 21727@KK9G.#CEIN.IN.USA.NA
R:931030/0537 35453@N5AAA.#CEIN.IN.USA.NA
R:931029/1256 26400@KD9LP.#NCIN.IN.USA.NA
R:931029/0636 15967@NU9H.#NWIN.IN.USA.NA
R:931028/1900 36038@WA8URE.#SWMI.MI.USA.NA

SB SAREX @ AMSAT \$STS-58.025

SAREX Keps & Update: 10/28

Thursday 10/28/93 @ 08:00 UTC

The last school group contact was completed yesterday. The Portsmouth HS in Portsmouth, New Hampshire had a telebridge contact using stations in California (Ralph Warner, N6MNN) and Texas (Bob Douglas, W5GEL). The students asked 5 questions during this bridge contact.

Hams across the U.S. and around the world continue to work the Shuttle Columbia on both voice and packet. Moreover, the completion of school group contacts has cleared several school backup passes for possible general QSO opportunities. While the SAREX Working Group cannot fully guarantee availability, there is a high probability that the STS-58 crew will be ready to take general calls over the continental U.S. on these

passes. Two of these "scheduled" passes remain. These include orbit 178 at MET 11 days 1 hour 42 minutes (10/29 at 16:35 UTC) and orbit 192 at MET 11 days 22 hours and 29 minutes (10/30 at 13:22 UTC). Please note that the astronauts operated voice during yesterday's "scheduled" pass which occurred on 10/27 at 14:59 UTC (Orbit 145). Also note that hams on the ground heard or worked the Shuttle Columbia crew on several other orbits yesterday.

Element set GSFC-031, generated by Ron Parise, WA4SIR, is the official SAREX set for today. Please note that there is only a six second difference between element set GSFC-025 (released two days ago) and element set GSFC-031.

STS-58

```
1 22869U 93065A   93300.17699070 0.00133671  99048-5  24183-3 0   318
2 22869  39.0252  71.9896 0012817  34.2105 325.9529 16.00500857 1383
```

Satellite: STS-58

Catalog number: 22869

Epoch time: 93300.17699070 (27 OCT 93 04:14:51.** UTC)

Element set: GSFC-031

Inclination: 39.0252 deg

RA of node: 71.9896 deg Space Shuttle Flight STS-58

Eccentricity: 0.0012817 Keplerian Elements

Arg of perigee: 34.2105 deg

Mean anomaly: 325.9529 deg

Mean motion: 16.00500857 rev/day Semi-major Axis: 6651.1630 Km

Decay rate: 0.13E-02 rev/day*2 Apogee Alt: 281.30 Km

Epoch rev: 138 Perigee Alt: 264.25 Km

NOTE - This element set is based on NORAD element set # 031.

The spacecraft has been propagated to the next ascending node, and the orbit number has been adjusted to bring it into agreement with the NASA numbering convention.

Submitted by Frank H. Bauer, KA3HDO for the SAREX Working Group

Date: Tue, 9 Nov 1993 07:08:41 GMT

From: csus.edu!netcom.com!msattler@decwrl.dec.com

Subject: Summary: Gell cells

To: info-hams@ucsd.edu

johnr@ms.uky.edu (John S. Roberts) said:

I bought a sears delco battery that sits on a trickle charger. Th
thing will run for months with periodic usage.

At 7:56 11/8/93 -0500, Scott Richard Rosenfeld <ham@wam.umd.edu> wrote:

>Yes, gel cells work very well. No memory effects, and they can handle
>a fair current drain - very, very good for HT's.

At 13:56 11/8/93 consult@netcom.com wrote:

>>Any sources for these cells (his were \$10 per at a used-parts
>>electronics store)? Anyone use these in real-life or training?
>
>Have you tried Weird Stuff, next to HD Computers across the street
>from Fry's, on the Lawrence Expressway? There is another suplus stuff
>place across the expressway.

At 8:43 11/8/93 -0500, Stephen C. Trier <trier@odin.INS.CWRU.Edu> wrote:

>There's a company that advertises gel-cell fanny packs in the various
>ham rags. That looks like a neat idea. It is essentially a 12V
>camcorder battery.
>
>All Electronics Corp, a surplus dealer, tends to have a good supply of
>gel cells. They advertise in the ham rags, too, or I can get you their
>address for the price of an e-mail message (it's not handy right now).
>
>IMHO, the biggest problem with a gel cell is that it is heavy. The
>second biggest is that it is affected by cold. I don't know yet
>whether it is affected worse than a NiCad; that's a question to which I
>wouldn't mind getting an answer.

gary@ke4zv.UUCP (Gary Coffman) penned:

: They show up at hamfests and surplus outlets all the time. At
: last weekend's hamfest there were 12 volt 6 Ah gell cell batteries
: for \$10 as well as 6 volt cells and large 38 Ah 12 volt batteries
: at \$19. You can carry the smaller ones in small camera bags, or one
: of these purses on a belt you see. However, I think a better choice
: is the camcorder and cellular bagphone battery SU-002. This battery
: is 12 volts at 2.3 Ah and will slip into a jeans hip pocket or a jacket
: pocket. They're fairly cheap, and there are clip on wall chargers and
: clip on DC cords widely available for them. I've used both kinds, and
: the bigger gell batteries get very heavy after carrying them around

: for a while.

And, in a related vein, in rec.radio.amateur.misc (Re: Care and Feeding LARGE Gel-Cells?)

jeffh@ludwig.cc.uoregon.edu (Jeff Hite) asks:

>>I have come into possession of 3 large 12v gell cells, manufactured by
>>Best with a part# bata-048. Could someone point me to a good source for
>>building/buying a charger for these. Also any specs that are available
>>would be appreciated.

and tskloss@zeus.tamu.edu replies:

>I highly reccomend the gel-cell charger project in the 1993 ARRL handbook.
>It uses a special IC that is designed to properly charge and maintain
>lead-acid wet and gel type batteries. I am using one currently on my

--

Michael S. Sattler msattler@netcom.com +1 (415) 621-2903
Digital Jungle Software Encrypt now; ask me how. (finger for PGP key)

All that is required for evil to triumph is
for {wo}men of good will to do nothing.

End of Info-Hams Digest V93 #1330

